

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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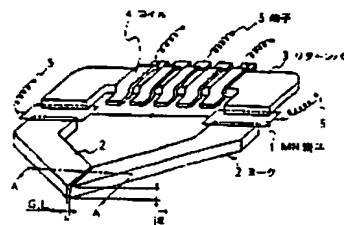
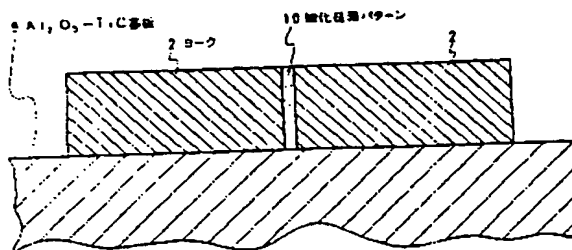
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APPLICANT : NEC CORP;

INVENTOR : YAMADA KAZUHIKO;

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TITLE : THIN FILM MAGNETIC HEAD AND ITS PRODUCTION



ABSTRACT : PURPOSE: To eliminate the depletion region of a gap part by etching a silicon oxide film to form a gap consisting of a pattern of a prescribed shape, then forming the film of yokes.

CONSTITUTION: The silicon oxide film having the film thickness equal to a track width  $T_w$  is formed by a sputtering method on a substrate 9 consisting of  $\text{Al}_2\text{O}_3$ -TiC, etc., and is then subjected to reactive ion etching by which the film is worked to the pattern 10 having the width equal to a gap length G.L. A  $\text{Co}_{90}\text{Zr}_{10}$  film having the film thickness  $T_w$  is then formed over the entire surface of the substrate 9 and the pattern 10 and the CoZr film on the pattern 10 is removed to form the yokes 2. Then, the generation of the depletion region in the gap part is obviated and the chipping of the gap and the deformation of the yokes 2 at the time of working a head are suppressed, by which the magnetical short-circuiting in the gap part is prevented.

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